UID Implementation & Employment
In DoD's Organic Maintenance Depots
Concept of Operations

EID	(12V)194532636
Orig. Part No.	(1P)1234
Serial No.	(S)786950

Steve Heilman, LMI

Depot UID Off-Site
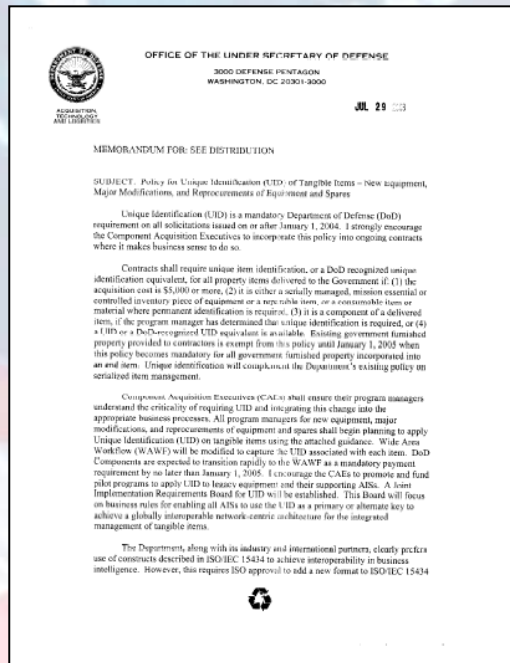
23 February, 2005

Outline

- How does current UID policy affect the organic Depots?

- What are our Depots expected to do?

- What's the best way for the Depots to meet their UID responsibilities?

  – New depot manufactured items

  – Legacy personal property items

- What's the best way to integrate UID & SNT/SIM?

- Where do we go from here?
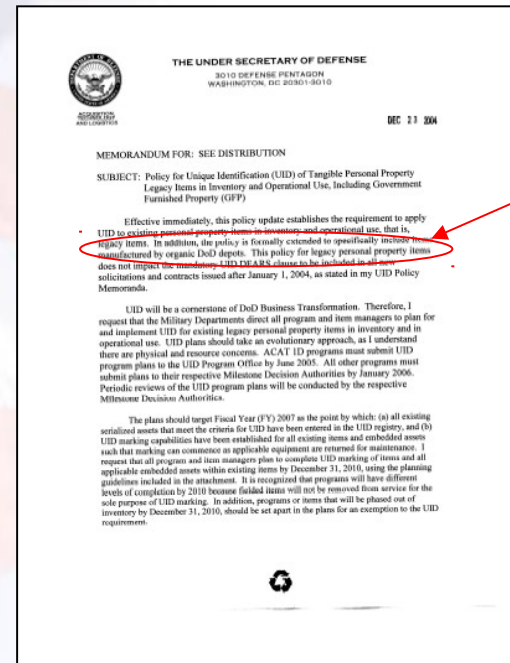
How Does UID Policy Affect the Organic Depots ?

USD(AT&L) Policy Memo
29 July, 2003

USD(AT&L) Policy Memo
23 December, 2004

Policy formally extended to include depot manufactured items.

- New tangible items
  - Begin NLT 1 Jan 2004
    - commercial purchases
  - Begin NLT 1 Jan 2005
    - depot manufactured items
      - verbal guidance

- Legacy items in inventory
  - IOC Jul 2005
    - pilot depots
  - Complete NLT Sep 2007
    - all existing serialized items
  - Complete all items NLT Dec 2010

How Does UID Policy Affect the Organic Depots (New Items) ?

- UID policy is directed to the DoD Acquisition Community (Service Acquisition Executives, PEOs, PMs, Commodity Managers).

- Policy makes UID a mandatory DoD requirement on all new equipment and materiel delivered pursuant to solicitations issued on or after January 1, 2004.

- Manufacturer responsible for compiling and recording required asset information specific to each part he makes so the data may be entered into the UID Registry.

- Equipment and materiel manufactured by DoD's organic depots, either for their own use or for delivery to the operating forces are considered "new" items which fall under UID marking policy.

What Does the Policy Say About New Items ?

- **Program Managers** will identify items embedded in end items that require unique identification, including embedded subassemblies, components and parts. These embedded items will identified in a Contract Data Requirements List (CDRL) or Exhibit

- **Contracting Officers** shall include the clause at 252.211-7003, Item Identification and Valuation, in all solicitations and contracts that require delivery of items.

- All items delivered to the Department will be delivered under a contract line item and the Department's acquisition cost of each item will be identified under a contract line item or sub-line item.

- **Contractors** are required to provide unique item identification, or a DoD recognized unique identification equivalent, for all items delivered with an acquisition cost of $5,000 or more and as designated by the requiring activity for items less than $5,000.

- Under the clause at 252.211-7003, **marking of items shall be in accord with MIL-STD-130L**, Identification Marking of U.S. Military Property

How Does UID Policy Affect the Organic Depots (Legacy Items) ?

- UID policy is directed to the DoD Acquisition Community (Service Acquisition Executives, PEOs, PMs, Commodity Managers).

- Policy makes UID a mandatory DoD requirement on all existing legacy personal property items in inventory and in operational use.

- ACAT 1D Programs must submit UID program plans by June 2005. All other programs must submit UID plans by January 2006.

- Organizations assigning or marking UIIs for legacy items shall report descriptive data (e.g., UII, item description, current part number), parent UII (where applicable), and marking data to the UID Registry .

- In the case of DoD organic depot maintenance operations, DUSD(L&MR) shall develop a UID implementation plan specifically for legacy personal property items; the initial version of the plan will be published NLT 31 May, 2005.

- Full operating capability (FOC) at all organic depots will be put in place NLT FY 2007

  - DUSD(L&MR) will publish an FOC UID CONOPS prior to December 2005.

What Does the Policy Say About Legacy Items ?

- **UID Plans** should target FY 2007 as the point by which:

  - All existing serialized assets that meet the criteria for UID have been entered in the UID Registry

  - UID marking capabilities have been established for all existing items and embedded assets such that marking can commence as applicable equipment are returned for maintenance.

- The **Services** should plan on establishing initial depot operating capabilities for legacy personal property items by July 2005 at the three pilot UID depots.

  - Planning will ensure that appropriate design authority approval is obtained prior to actual parts marking.

- OSD UID **budget guidance** to Components will be issued by April 2005

- OSD **AIS and depot roadmaps for key data, processes and systems** will be developed and necessary infrastructure identified by September 2005.

- Effective January 1, 2006, all **Government Furnished Property** (GFP) must meet the UID policy requirements.

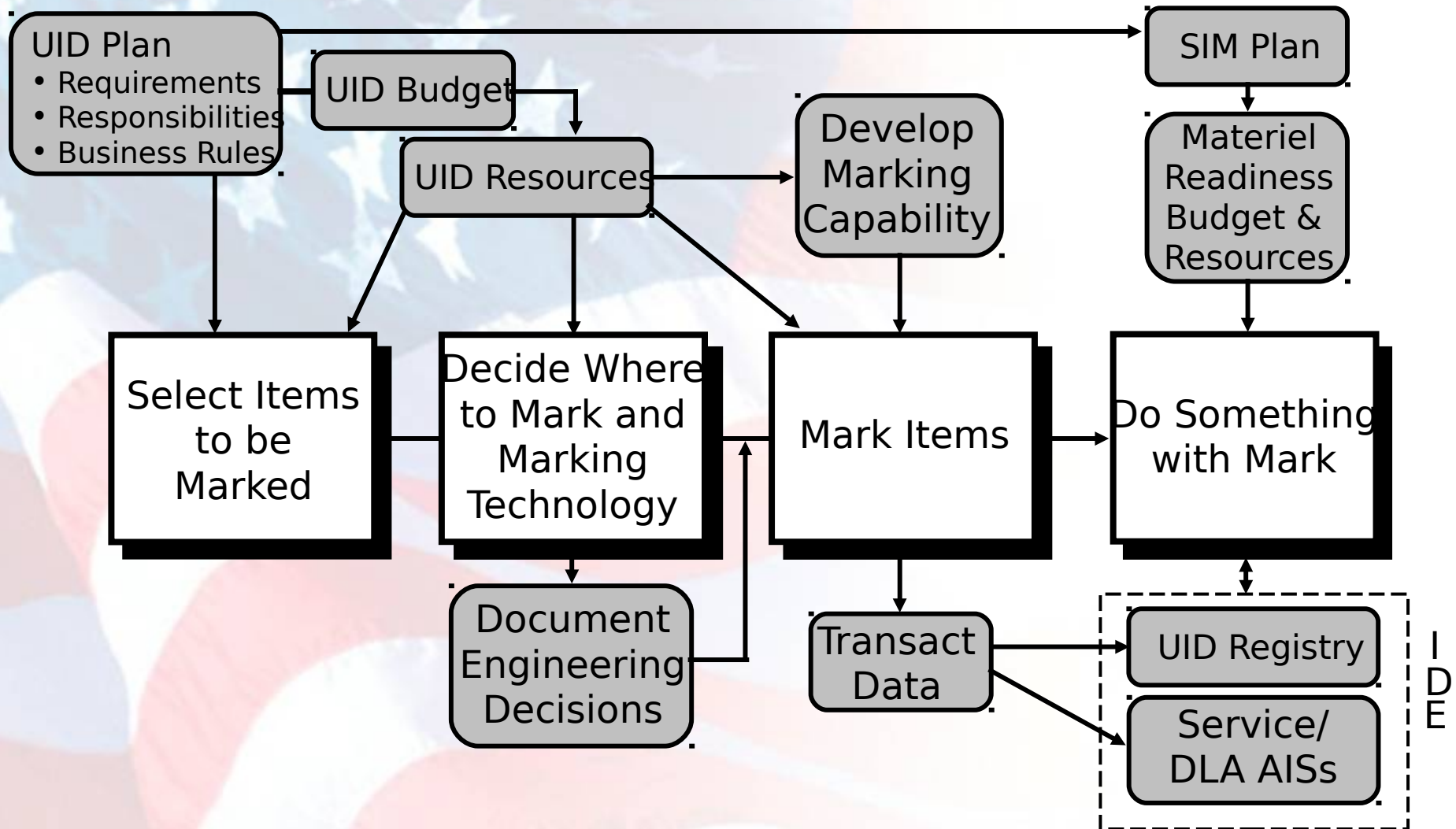# What are our Depots Expected to Do?

Select Items to be Marked → Decide Where to Mark and Marking Technology → Mark Items → Do Something with Mark

What are our Depots Expected to Do?

What are our Depots Expected to Do?

- Acquire the authority to mark items

- Identify which items need to be marked

- Plan and budget for UID marking capability

- Develop the capability to mark items

- Determine where and how to apply the UID mark

- Mark the item(s)

- Obtain UID data for each individual item marked

- Transact data to the UID Registry and other DSSs

- (Do something with the mark to generate ROI…)

How Might the Depots Meet Their UID Responsibilities?

Department of Defense
Concept of Operations
(CONOPS)

for

Unique Identification (UID)
Implementation and Employment within
DoD's Organic Maintenance Depots

Preliminary Draft Version 3.2
October 2004

Prepared by the Office of the Secretary of Defense
Maintenance Policy, Programs and Resources

- **Acquire the authority to mark items**
    - Alternatives and Preferred Alternative
- **Identify and prioritize which items to mark**
    - Alternatives and Preferred Alternative
- **Plan and budget for UID marking capability**
    - Alternatives and Preferred Alternative
- **Develop the capability to mark items**
    - Alternatives and Preferred Alternative
- **Determine where and how to apply the UID mark**
    - Alternatives and Preferred Alternative
- **Mark the item(s)**
    - Alternatives and Preferred Alternative
- **Obtain UID data for each individual item marked**
    - Alternatives and Preferred Alternative
- **Transact data to the UID Registry and other DSSs**
    - Alternatives and Preferred Alternative

Expected Meeting Outcomes

- **Goal**: achieve common understanding and shared expectations of the UID parts marking and data management responsibilities which have been assigned, or will be assigned to our organic depots.

- **Objective**: standardize as much of our UID implementation strategy as makes sense, avoiding duplication of effort and redundant investment.

- **Expected Meeting Outcome**: achieve consensus on the preferred alternative for meeting key depot UID responsibilities, in particular:
  1. Funding UID implementation,
  2. Roles & responsibilities of the cognizant Program Manager/Item Manager,
  3. Business rules for engineering involvement in direct parts marking at the organic depots, and
  4. Depot processes for UID data transaction and data management, to include SNT/SIM.

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- **Plan and budget for UID marking capability**

  - <u>Alternative #1</u> - Parts marking is a Program requirement, prioritized and funded by the cognizant acquisition manager

  - <u>Alternative #2</u> - Parts marking is merely an additional step in the manufacturing process (or repair process in the case of legacy marking); marking is prioritized by the depot and funded out of the depot's manufacturing (or repair) account

  - <u>Alternative #3</u> - Parts marking is an Operational requirement, prioritized by the warfighter and funded out of O&M accounts

  - <u>PREFERRED ALTERNATIVE</u> = _____

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- **Identify and prioritize which items to mark**

    - <u>Alternative #1</u> - Depots determine what to mark and schedule the work IAW current shop floor control processes

    - <u>Alternative #2</u> - Program Managers determine what to mark and assign the work to the depots

    - <u>Alternative #3</u> - Operational Logisticians determine what to mark and assign the work to the depots

    - <u>PREFERRED ALTERNATIVE</u> = _____

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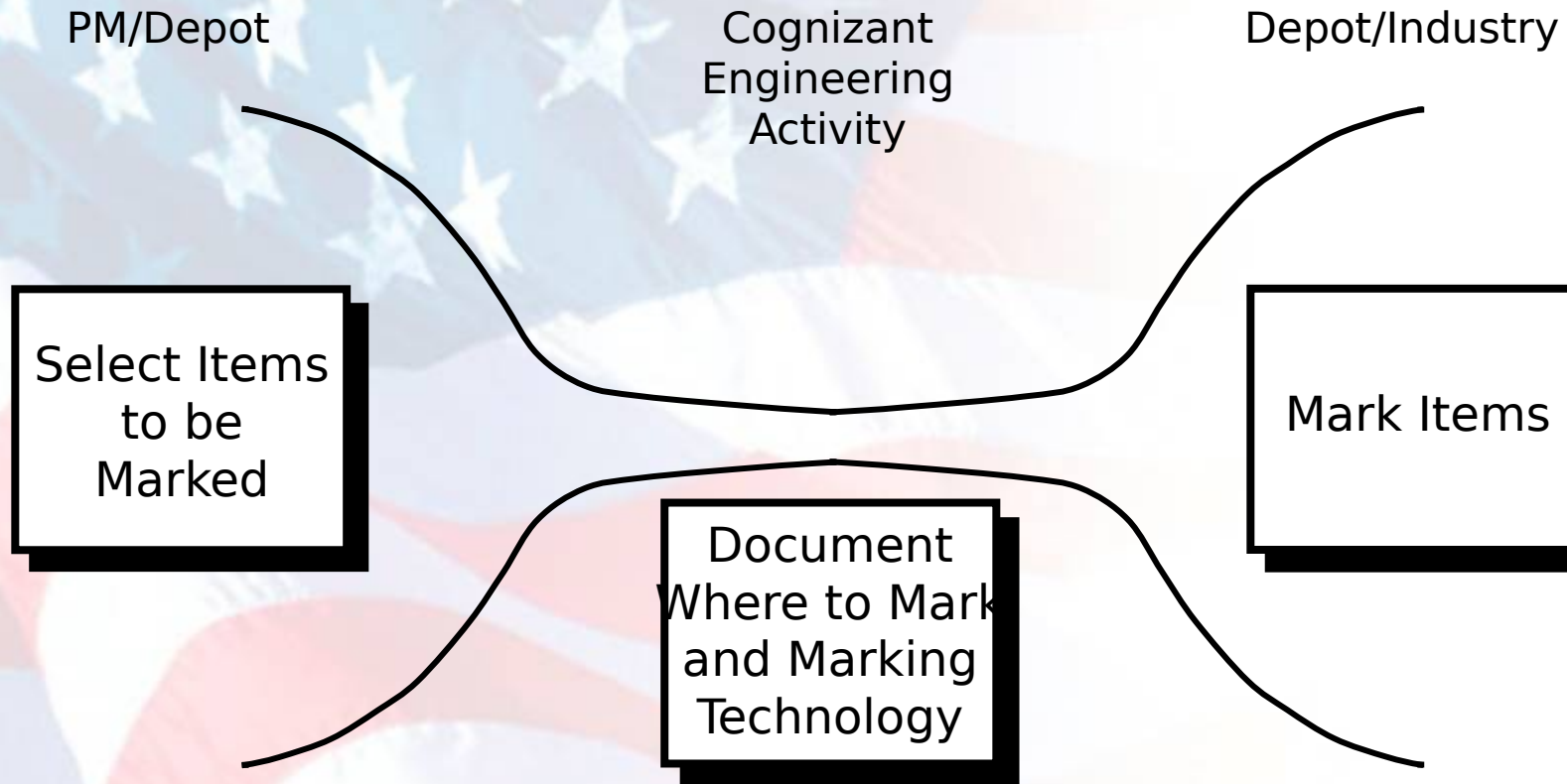**Preliminary Draft Version 3.2**
October 2004

Prepared by the Office of the Secretary of Defense
Maintenance Policy, Programs and Resources

- **Determine where and how to apply the UID mark**

  - <u>Alternative #1</u> – Use only labels/label plates (no direct parts marking); no significant engineering analysis required.

  - <u>Alternative #2</u> – Mark labels/label plates per alternative #1; contract commercially for engineering analyses of parts which require DPM.

  - <u>Alternative #3</u> - Mark labels/label plates per alternative #1; buy (direct fund) engineering services from current government technical authority for items to be directly marked.

  - <u>PREFERRED ALTERNATIVE</u> = _____

UID Marking Bottleneck ?

PM/Depot

Cognizant Engineering Activity

Depot/Industry

Select Items to be Marked

Document Where to Mark and Marking Technology

Mark Items

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- **Transact data to the UID Registry and other DSSs**

  - <u>Alternative #1</u> – Direct data submission.

  - <u>Alternative #2</u> – Wide Area Workflow.

  - <u>Alternative #3</u> – Combination of direct submission and WAWF.

  - <u>PREFERRED ALTERNATIVE</u> = _____

UID Data Submission

How Might the Depots Meet Their UID Responsibilities?

Department of Defense
Concept of Operations
(CONOPS)

for

Unique Identification (UID)
Implementation and Employment within
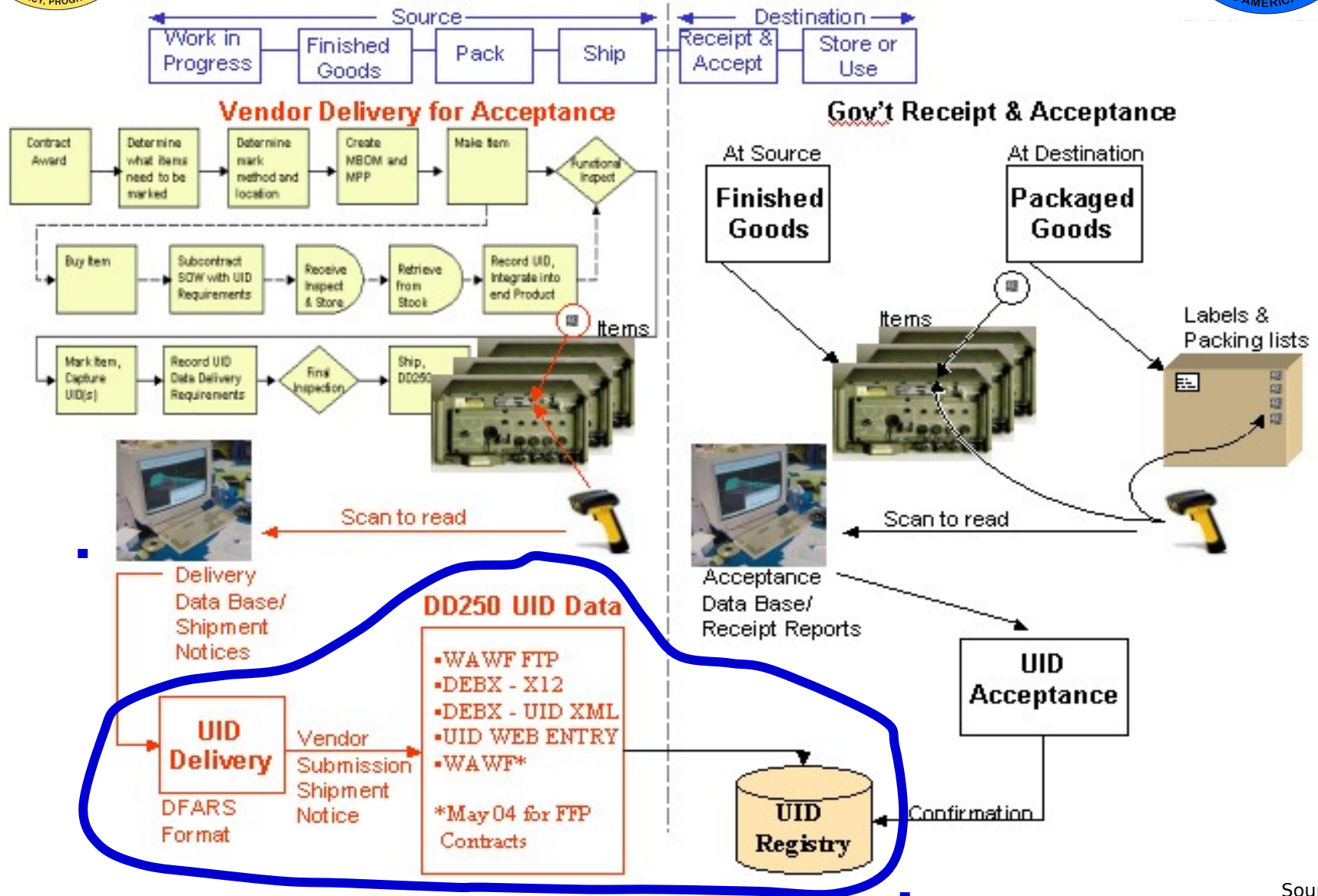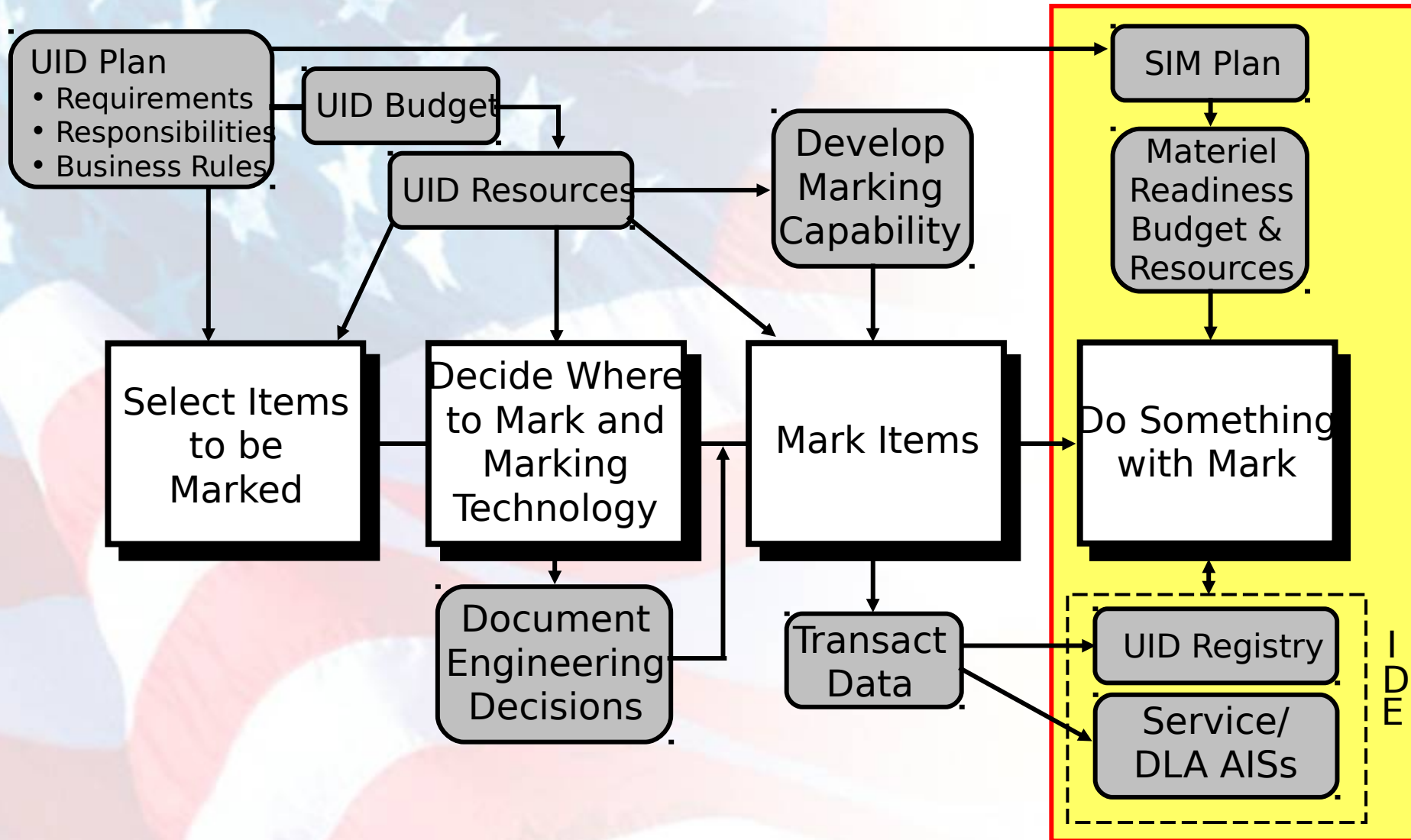DoD's Organic Maintenance Depots

Preliminary Draft Version 3.2
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Maintenance Policy, Programs and Resources

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Vision End State:
UID-Enabled SNT/SIM

UID Plan
- Requirements
- Responsibilities
- Business Rules

UID Budget

UID Resources

Develop Marking Capability

SIM Plan

Materiel Readiness Budget & Resources

Select Items to be Marked

Decide Where to Mark and Marking Technology

Mark Items

Do Something with Mark

Document Engineering Decisions

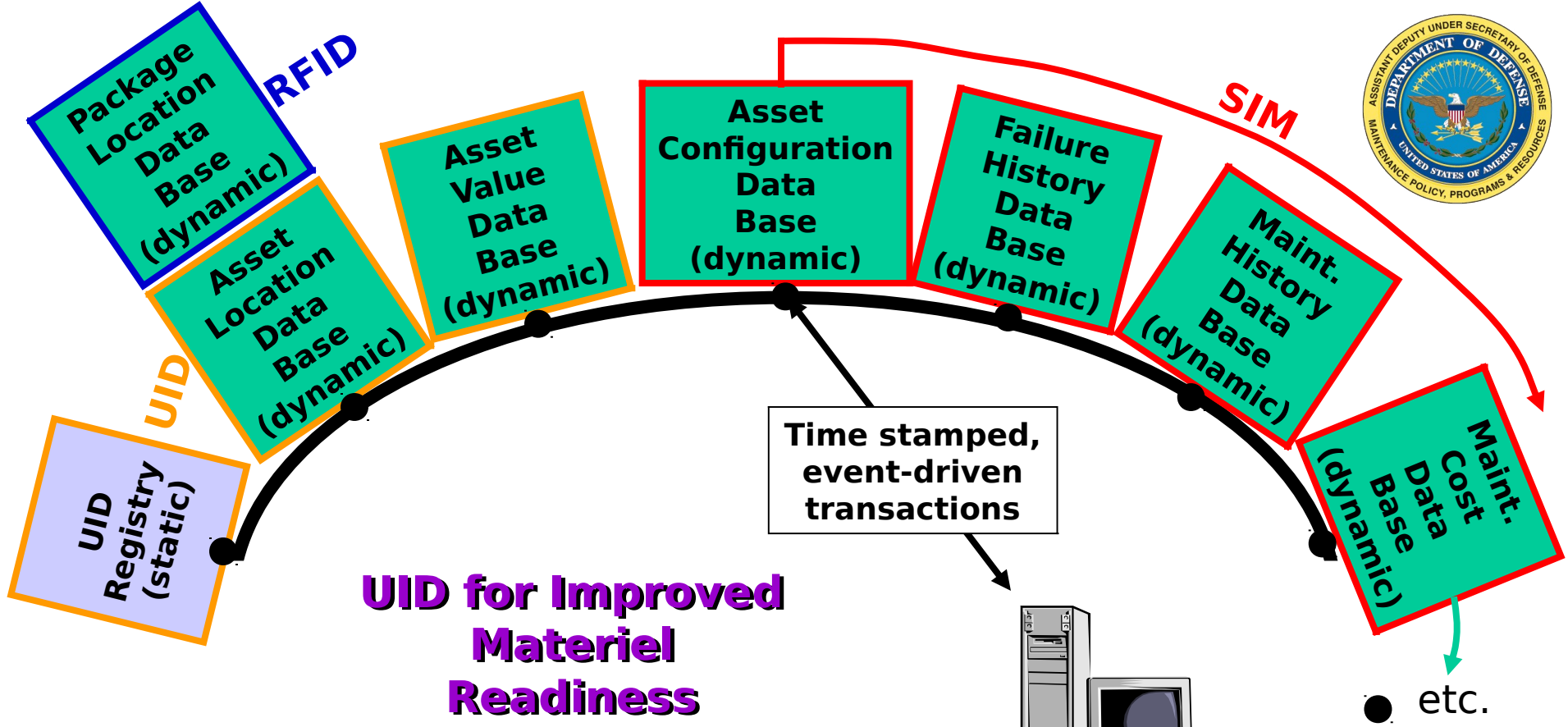**Transact Data**

UID Registry

Service/ DLA AISs

IDE

Vision End State:
UID-Enabled SNT/SIM

- Through SIM, the UID will ultimately be associated, not only with an item's inventory and accounting information, but also with it's configuration, reliability and maintenance history.

- In the same way that an individual's unique Social Security Number is used by physicians to locate and access the correct medical record so that patient diagnosis and treatment may be accomplished effectively and safely, the UID number will point to repairable-specific information within the UID Registry which will enable DoD maintainers to troubleshoot faster, manage configuration better and take actions to restore inherent equipment reliability when unacceptable MTBF is discovered.

RFID

SIM

UID

Package Location Data Base (dynamic)

Asset Location Data Base (dynamic)

Asset Value Data Base (dynamic)

Asset Configuration Data Base (dynamic)

Failure History Data Base (dynamic)

Maint. History Data Base (dynamic)

Maint. Cost Data Base (dynamic)

UID Registry (static)

UID for Improved Materiel Readiness

Time stamped, event-driven transactions

etc.

EID   (17V)0CV A5
Original Part Number (1P)1234
Serial Number   (S)786950

= DoD Data Bases

= Service Data Bases

Where Are We Now?
Current implementation status

UID for Improved
DoD Asset
Tracking
and Accounting

UID for Improved
DoD Maintenance
(SIM/Pedigree
Mgm't)

Next Steps

UID Enables Improved Material
Asset Tracking & Cost Accounting
(New Items)

UID Enables Improved
Material Maintenance
(New Items)

UID Enables Improved Material
Asset Tracking & Cost Accounting
(Legacy Items)

UID Enables Improved
Material Maintenance
(Legacy Items)

Make Informed Decisions
Access Data
Transact Data
WAWF/AIT Infrastructure
UID Registry/Service DSS
Mark Items
Engineering
Funding
Implementation Plan
UID Policy
Requirements Statement

SIM Policy
Implementation Plan
Funding
Engineering
Mark Items
UID Registry/Service DSS
WAWF/AIT Infrastructure
Transact Data
Access Data
Make Informed Decisions

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Questions?

Back-up Slides

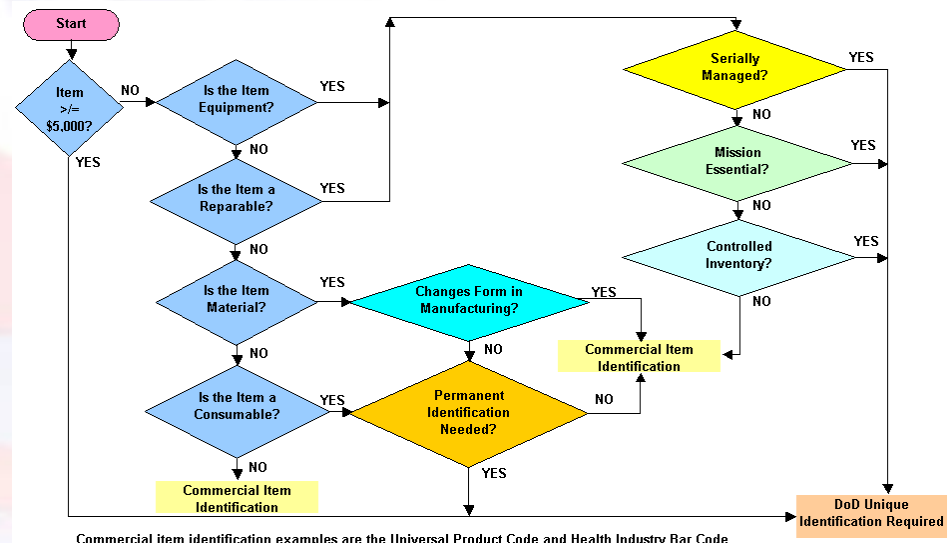# What Materiel is Being Uniquely Identified?

Department of Defense Guide to Uniquely Identifying Items

Assuring Valuation, Accountability and Control of Government Property

Version 1.4
April 16, 2004

Office of the Principal Deputy Under Secretary of Defense
(Acquisition, Technology & Logistics)

Commercial item identification examples are the Universal Product Code and Health Industry Bar Code

How is DoD Doing UID?
UID Registry Concept

Rules

UID Registry

Keys

| People Registry | Places Registry | Assets Registry (Things) | Services Registry | Groups Registry | Events Registry |

Context

New   **Legacy**

Acquisition — Parent — Child

The UID Common Key

Property Accountability: Equipment, Parts, Materials

The UID Common Key

GFP Asset Registry — Parent — Child

The UID Common Key

Full Cost Accounting

Source: DAU
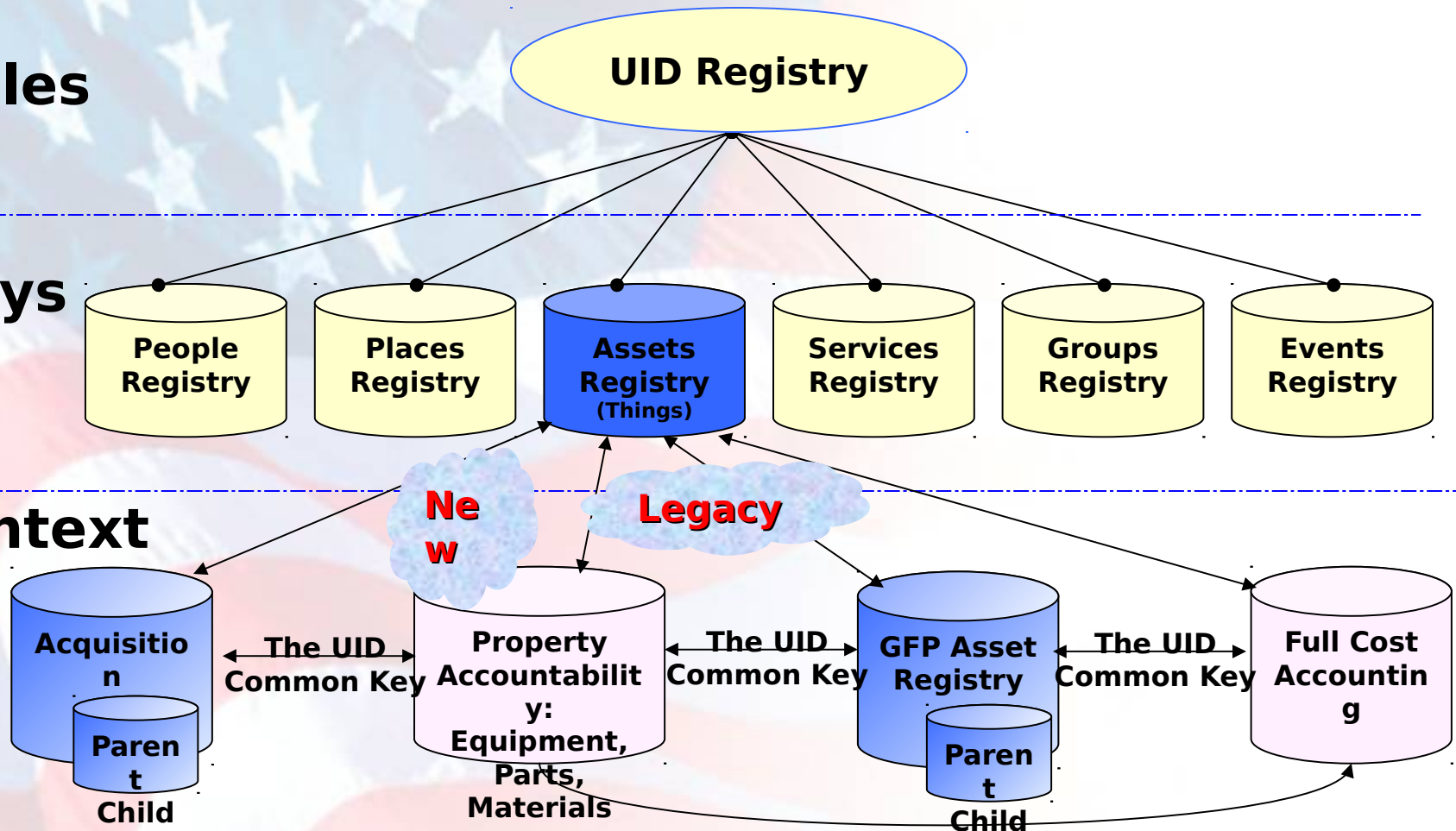
Implementing UID
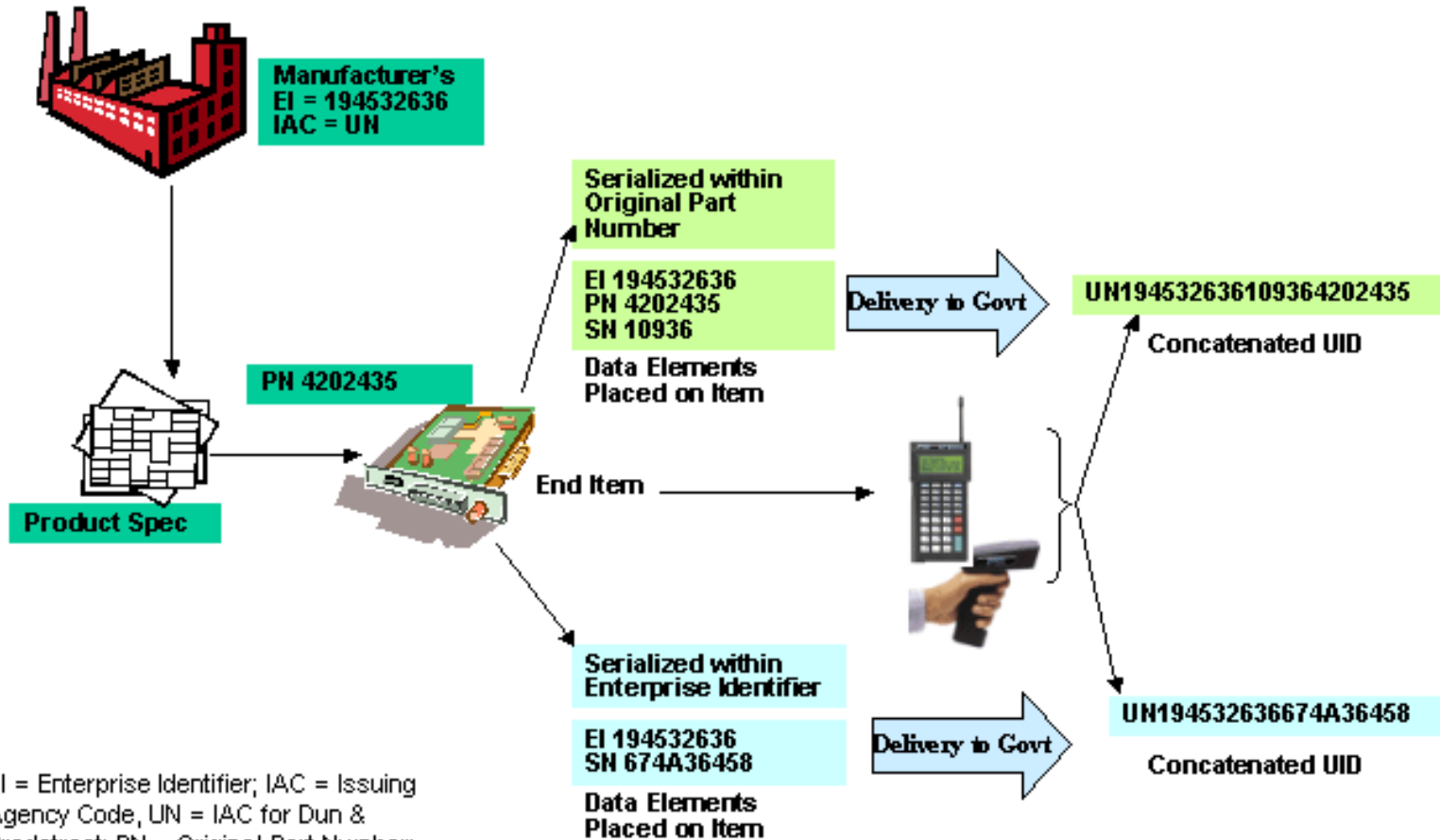# in DoD Maintenance
Marking Items

- DoD Guide to Uniquely Identifying Items
  - Appendix D – The Mechanics of Unique Identification
  - Addresses Constructs 1 & 2
  - Semantics to be Machine Readable
  - Syntax – instructions to assemble data fields to define unique identifier
    - Multiple examples provided for both constructs

- MILSTD 130L
  - Department of Defense Standard Practice [for] Identification of U.S. Military Property
  - 10 October 2003
  - Provides criteria by which product designers develop specific item identification marking requirements

- Association for Automatic identification (AIM) and Data Capture Technologies
  - Association of Solution Providers
    - **http://www.aimglobal.org**

- But, per USD (AT&L) Memo of 26 November 2003, UID equivalents are permissible

Implementing UID
in DoD Maintenance
Compiling Item-Specific Data

Required Information

- Item Description
- Unique identification, consisting of
  - Concatenated DoD unique item identification; or
  - DoD recognized unique identification equivalent
- Unique item identifier type
- Issuing agency code (if DoD unique item identifier is used)
- Enterprise identifier (if DoD unique item identifier is used)
- Original part number
- Serial number
- Unit of measure

Implementing UID
in DoD Maintenance
Compiling Item-Specific Data

Required Information (cont.)

- Government's unit acquisition cost
- Ship-to code
- Contractor's CAGE code or DUNS number
- Contract number
- Contract line, subline, or exhibit number
- Acceptance code
- Shipment date

Implementing UID
in DoD Maintenance
Data Submission to UID Registry

- Initial constraints for UID data submission include:
  - Submit fixed price contracts using an interim solution until WAWF is ready to receive data in May 2004
  - Submit cost type contracts using an interim solution until WAWF is ready in October 2004
  - Provide for end items only
- When a contractor ships items UID data must be included in the shipment notification as the contract specifies and as the PM requests.
- Submission of UID data in the interim
  - FTP format via WAWF
  - X12 Ship Notice/Shipment and Billing Notice via DEBX
  - UID XML format
  - Manually enter via UID Web entry site

Employing UID in DoD Maintenance
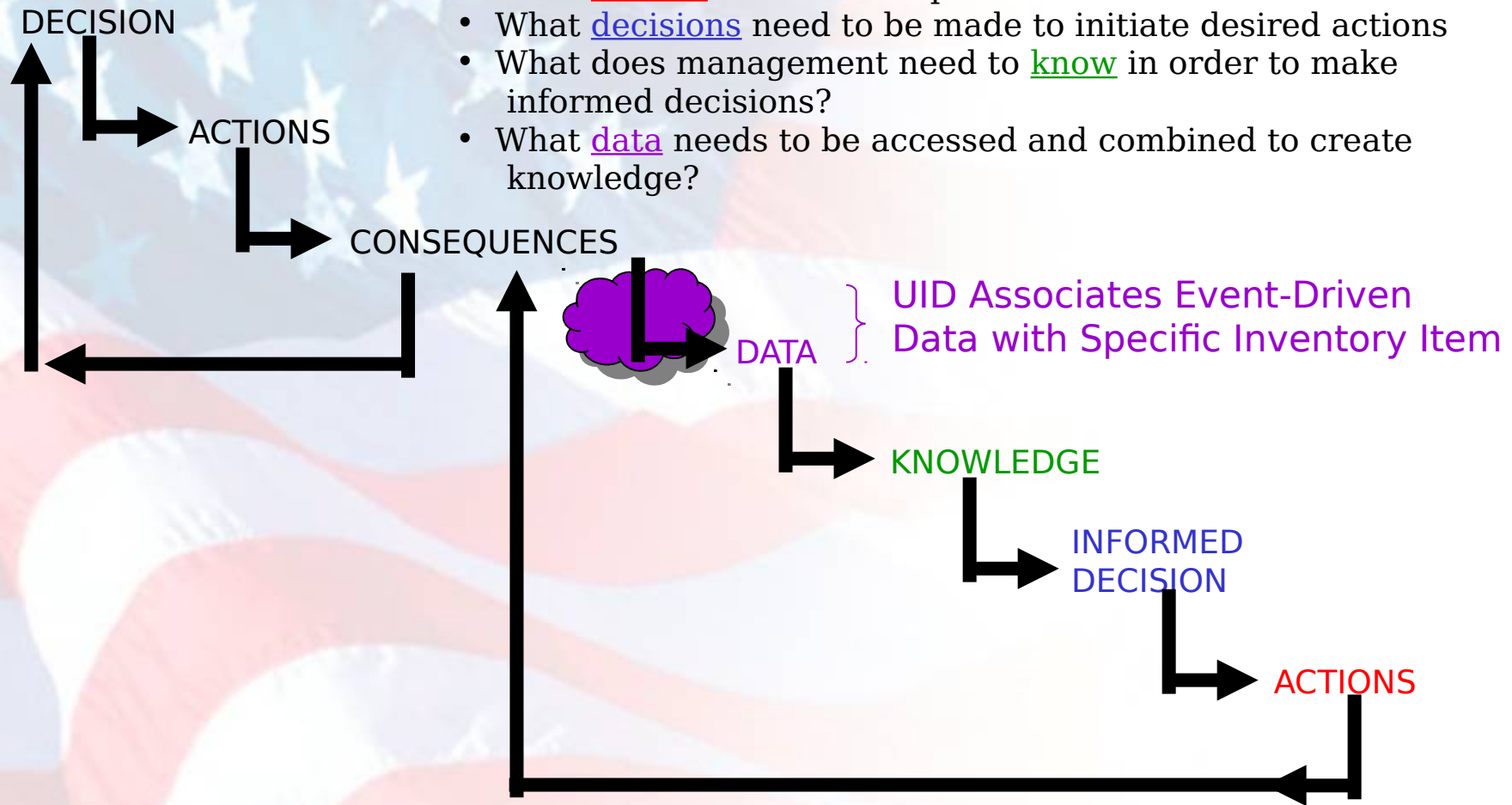## Business Rules for Capturing the UID

- For activities after initial delivery, in support of the product life cycle, any entity that collects data about the item must be capable of associating the data with the UID in accordance with program requirements.
  - Need an AIT reader

- Discovery of duplicate UID will occur when the government attempts to register the UID in its internal data base. If a true duplicate exists, the government will work with appropriate enterprise(s) to resolve the duplication

- In a database, once the UID is derived it shall not be parsed to determine the original elements.

- A database shall be capable of using the UID or combination of its component data elements to retrieve the data record associated with the item represented by the UID

UID Objective:
Informed Decision Making

- What **actions** need to take place?
- What **decisions** need to be made to initiate desired actions
- What does management need to **know** in order to make informed decisions?
- What **data** needs to be accessed and combined to create knowledge?

DECISION

ACTIONS

CONSEQUENCES

DATA

UID Associates Event-Driven Data with Specific Inventory Item

KNOWLEDGE

INFORMED DECISION

ACTIONS

What's In It for Maintainers?

Logistics Elements

- Maintenance Planning
- Training & Training Support
- Design Interface
- Computer Resources Support
- Technical Data
- Support Equipment
- Supply Support
- Packaging, Handling, Storage, & Transportation
- Manpower & Personnel
- Facilities

MATERIAL SUPPORT

Non-RFU PARTS

DoD Maintenance Enterprise (Depot & Field)

Non-RFU WEAPONS

REPAIRED PARTS

REPAIRED WEAPONS

COMMODITIES & SUPPLIES

WARFIGHTER

DoD Acquisition Enterprise

NEW PARTS

NEW WEAPONS

REDISTRIBUTED WEAPONS

= DoD Supply Enterprise

= DoD Distribution Enterprise

Vision End State
Better, Faster, Cheaper Maintenance
Enabled by Better Knowledge and S&R Material Support

Embedded Sensors

Integrated Data Bus

Maintenance

Sense & Respond

Logistics

On-Board Diagnostics and Prognostics

Anticipatory Materiel

Reduced Footprints

Integrated Logistics Information

Data Transfer

Interactive Training & Tech Support

IETMs

Pedigree Management

Maintenance

CBM+

Predictive Maintenance

RCM Data Analysis

Condition Monitoring

Reliability Analysis

Portable Maintenance Aids

Troubleshooting and Repair

Preventive Maintenance

UID/SIM

Maintenance History

Configuration

Battlespace Network

Linked to Warfighters

Total Asset Visibility (RFID)

- **Real-time Status of Equipment Material Condition**
- **Integrated Supply/Maintenance via Serialized Item Management**
- **Total Asset Visibility**

Receipt and Acceptance of UID Items
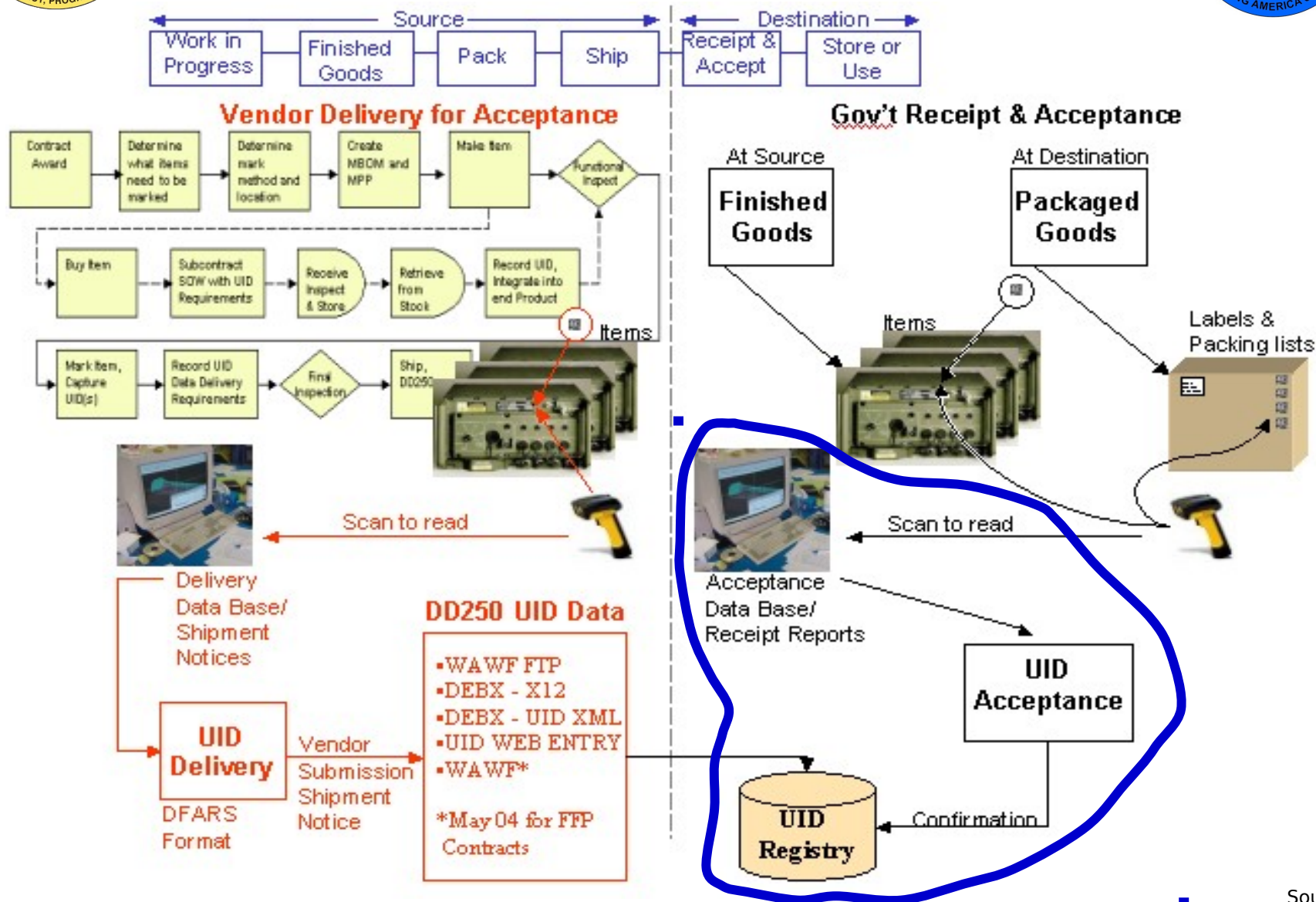
Source: DAU
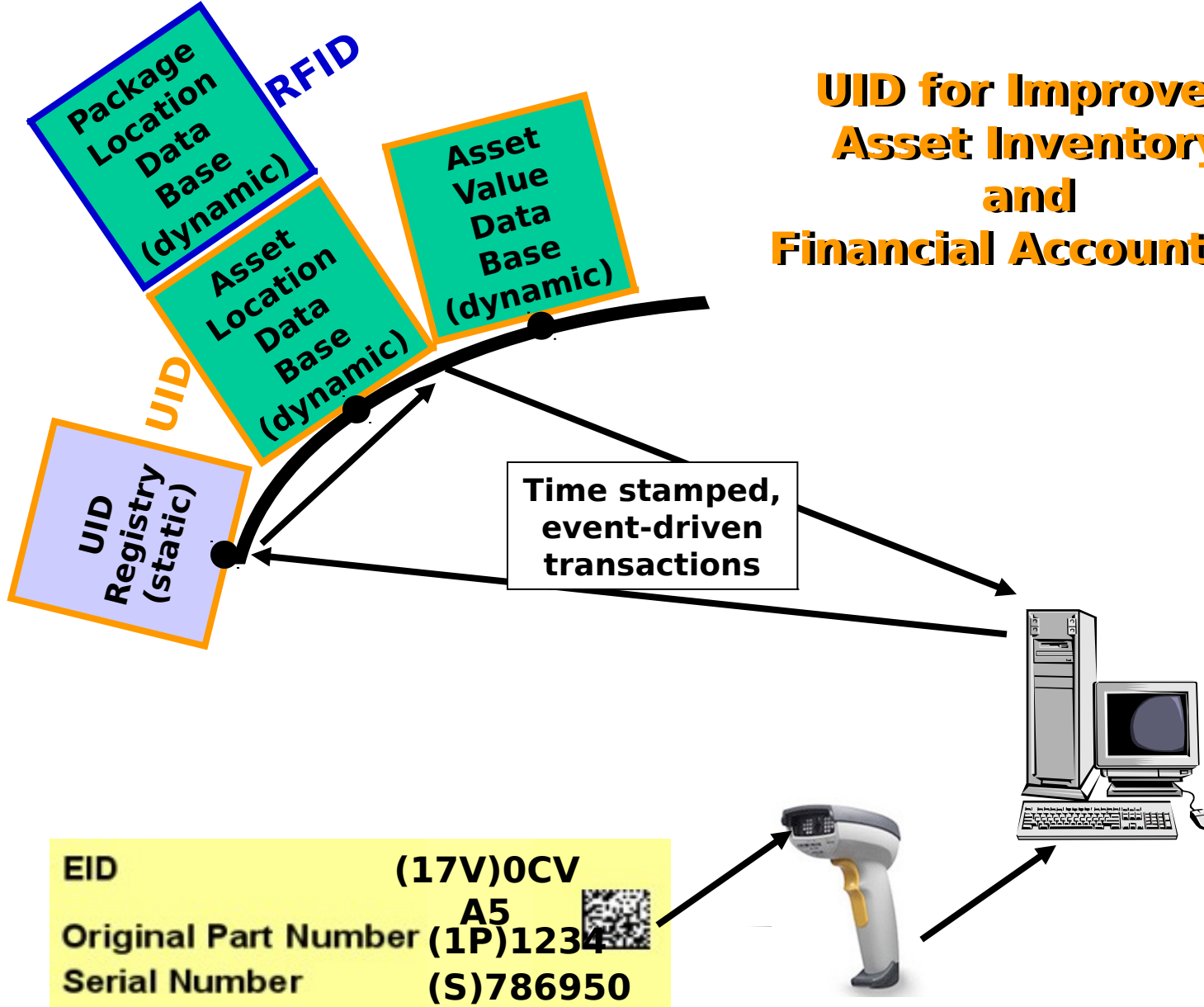
UID for Improved Maintenance of DoD Materiel

SIM

UID

Asset Configuration Data Base (dynamic)

Failure History Data Base (dynamic)

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